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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of Jones, et al.

Group Art Unit: 2154

Serial No.: 09/811,155

Examiner: El Hady, Nabil M.

Filed: March 16, 2001


Atty Docket: 087809-0269968

Title: ENCAPSULATING FIBRE CHANNEL SIGNALS FOR TRANSMISSION OVER  
NON-FIBRE CHANNEL NETWORKS

**CERTIFICATION UNDER 37 C.F.R. §§ 1.8 and/or 1.10\***

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I hereby certify that, on the date shown below, this paper (along with any paper referred to as being attached or enclosed) is being transmitted via Express Mail on the date below addressed to OFFICE OF PETITIONS, Commissioner of Patents & Trademarks, P.O. Box 1450, Alexandria, VA 22313.

  
Signature

Date: September 28, 2005

KATHLEEN M. SMITH

(type or print name of person certifying)

\* Only the date of filing (§ 1.6) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under § 1.8 continues to be taken into account in determining timeliness. See § 1.703(f). Consider "Express Mail Post Office to Addressee" (§ 1.10) or facsimile transmission (§ 1.6(d)) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations.

**PETITION TO WITHDRAW HOLDING OF ABANDONMENT**  
**UNDER 37 C.F.R. § 1.182**

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Sir:

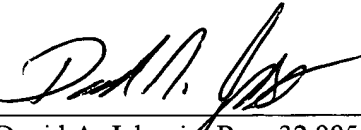
The present application was abandoned pursuant to a Notice of Abandonment mailed September 9, 2005 (**Exhibit 1**). The application was abandoned in view of Applicants' alleged failure to timely file a reply to the Office Action mailed March 1, 2005.

The Notice of Abandonment was a result of Patent Office error. On September 1, 2005 Applicants timely filed, via facsimile, a Petition for Three Month Extension of Time and Amendment/Response to the Office Action mailed March 1, 2005 (**Exhibit 2**). The receipt of Applicants' Amendment/Response and Petition for Extension of Time was automatically acknowledged by the U.S. Patent Office on September 1, 2005 at 9:51 pm, as evidenced by the attached U.S. Patent Office Auto-Reply Facsimile Transmission Sheet (**Exhibit 3**).

In view of the above, Applicants request, pursuant to 37 C.F.R. § 1.182., that the Notice of Abandonment be withdrawn and the subject application be remanded to the Examiner for further consideration.

No fee applies to this submission.

Respectfully submitted,  
PILLSBURY WINTHROP SHAW PITTMAN LLP

By   
David A. Jakopin, Reg. 32,995

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,155	03/16/2001	Loren M. Jones	087809 /0269968	5795
27498	7590	09/09/2005	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN LLP			EL HADY, NABIL M	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2152	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Notice of Abandonment**

Application No.

09/811,155

Examiner

Nabil M. El-Hady

Applicant(s)

JONES ET AL.

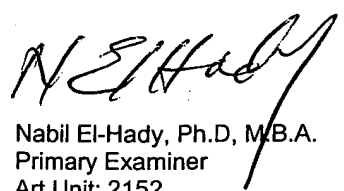
Art Unit

2152

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1. ☒ Applicant's failure to timely file a proper reply to the Office letter mailed on 01 March 2005.
  - (a) ☐ A reply was received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the period for reply (including a total extension of time of \_\_\_\_\_ month(s)) which expired on \_\_\_\_\_.
  - (b) ☐ A proposed reply was received on \_\_\_\_\_, but it does not constitute a proper reply under 37 CFR 1.113 (a) to the final rejection.  
(A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
  - (c) ☐ A reply was received on \_\_\_\_\_ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
  - (d) ☒ No reply has been received.
2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
  - (a) ☐ The issue fee and publication fee, if applicable, was received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
  - (b) ☐ The submitted fee of \$\_\_\_\_\_ is insufficient. A balance of \$\_\_\_\_\_ is due.  
The issue fee required by 37 CFR 1.18 is \$\_\_\_\_\_. The publication fee, if required by 37 CFR 1.18(d), is \$\_\_\_\_\_.
  - (c) ☐ The issue fee and publication fee, if applicable, has not been received.
3. ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
  - (a) ☐ Proposed corrected drawings were received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the period for reply.
  - (b) ☐ No corrected drawings have been received.
4. ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.
5. ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.
6. ☐ The decision by the Board of Patent Appeals and Interference rendered on \_\_\_\_\_ and because the period for seeking court review of the decision has expired and there are no allowed claims.
7. ☐ The reason(s) below:

  
Nabil El-Hady, Ph.D, M.B.A.  
Primary Examiner  
Art Unit: 2152

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:  
Loren M. Jones et al.

Serial No.: 09/811,155

Confirmation No. 5795

Examiner: El Hady, Nabil M.

Art Unit: 2154

Filed: March 16, 2001

Atty. Docket No. 087809-0269968

For: *Encapsulating Fibre Channel Signals For Transmission Over Non-Fibre Channel Networks*

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**CERTIFICATE OF FACSIMILE TRANSMISSION**

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via facsimile to (571) 273-8300, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on September 1, 2005.

By: *Bobbie Jutras*  
Bobbie Jutras

**AMENDMENT AND RESPONSE**

Mail Stop AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This paper is responsive to the Office Action mailed March 1, 2005, for which a response is due September 1, 2005. The Commissioner is authorized to charge any required fee to Pillsbury Winthrop Shaw Pittman LLP's deposit account no. 03-3975 (order no. 087809-0269968).

Petition for Extension of Time. Applicants' attorney hereby petitions for an extension of time of three (3) months, from June 1, 2005 to and including September 1, 2005, pursuant to 37 C.F.R. § 1.136. The fee for this petition is estimated to be \$510.00 (fee code 1253).

In response to the office action, please enter the following:

**Amendments to the claims** are reflected in the listing of claims beginning at page 2.

**Remarks** begin at page 8.

## IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

### *Listing of Claims*

1. (Currently amended) A method for communicating between a first Fibre Channel (FC) enabled device and a second FC enabled device, where the communication occurs across a fabric that operates in accordance with a first protocol different from a FC protocol of the first and second FC enabled devices, the method comprising:

receiving, from the first FC enabled device, at a first gateway receiver a sequence of bytes including at least one FC control character in accordance with the FC protocol; replacing the at least one FC control character with at least one first protocol data character that represents the at least one FC character;

generating at least one of an encapsulation header and an encapsulation footer; the step of generating including setting at least one of:

an FC control character indicator in the encapsulation header if a first byte in the sequence of bytes received at the first gateway receiver [is a control] contains the first protocol data character[;] that represents the at least one FC character, and [setting] an FC end of frame indicator in the encapsulation footer if a last byte in the sequence of bytes received at the first gateway receiver [is an end of frame control] contains the first protocol data character that represents the at least one FC character.

2. (Currently amended) The method of claim 1, further comprising encapsulating the sequence of bytes with the at least one of the encapsulation header and encapsulation footer.
3. (Original) The method of claim 1, wherein the first protocol is gigabit ethernet.
4. (Original) The method of claim 1, wherein the at least one control character is a K28.5 character.

5. (Original) The method of claim 1, wherein the at least one data character is a D28.5 character.
6. (Original) The method of claim 2, further comprising:  
placing at a controller the encapsulated sequence of bytes in a packet composed in  
accordance with the first protocol to produce a packetized encapsulated sequence;  
and  
transmitting, through the fabric, from the controller to a second gateway receiver the  
packetized encapsulated sequence.
7. (Original) The method of claim 6, wherein the transmitting by the controller is  
performed at a transmission rate, and the receiving at the first gateway receiver is performed at a  
reception rate that is less than the transmission rate.
8. (Currently amended) The method of claim 6, further comprising:  
receiving at the second gateway receiver the packetized encapsulated sequence;  
removing the encapsulation header and the encapsulation footer; and  
replacing the at least one first protocol data character with the at least one FC control  
character to produce a regenerated sequence of bytes.
9. (Currently amended) The method of claim 8, wherein replacing the at least one first  
protocol data character results in an end of file FC control character being placed in the  
regenerated sequence of bytes.
10. (Original) The method of claim 8, further comprising transmitting the regenerated  
sequence of bytes to the second FC enabled device.
11. (Currently amended) A gateway for communicating among a first device and a second  
device, both of which operate in accordance with a fibre channel (FC) protocol, and an  
intermediate network coupling the first device to the second device and having a first protocol,  
the gateway comprising:

a first FC protocol gateway receiver that is to receive a sequence of bytes including at least one FC control character in accordance with the FC protocol;  
a first intermediate network gateway transmitter that is to replace the at least one FC control character with at least one intermediate network data character that represents the at least one FC control character and to generate an encapsulation header and an encapsulation footer; and  
wherein the transmitter is to set a FC control character indicator in the encapsulation header if a first byte in the sequence of bytes received at the FC protocol gateway receiver is a FC control character, and to set an end of frame indicator in the encapsulation footer if another byte in the sequence of bytes received at the first FC protocol gateway receiver is an end of frame FC control character.

12. (Original) The gateway of claim 11, wherein the transmitter encapsulates with the encapsulation header and the encapsulation footer the sequence of bytes in which at least one control character was replaced with at least one data character.
13. (Original) The gateway of claim 11, further comprising a controller that is to place the encapsulated sequence of bytes in a packet composed in accordance with the first protocol to produce a packetized encapsulated sequence and that is to transmit, through the intermediate network, from the controller to the second device the packetized encapsulated sequence.
14. (Original) The gateway of claim 11, wherein the first protocol is gigabit ethernet.
15. (Original) The gateway of claim 11, wherein the at least one control character is a K28.5 character.
16. (Original) The gateway of claim 11, wherein the at least one data character is a D28.5 character.
17. (Original) The gateway of claim 12, further comprising a controller that is to place the encapsulated sequence of bytes in a packet composed in accordance with the first protocol to



produce a packetized encapsulated sequence and that is to transmit, through the intermediate network, from the controller to a second gateway receiver, the packetized encapsulated sequence.

18. (Original) The gateway of claim 17, wherein the controller is to transmit at a transmission rate, and the receiving at the first gateway receiver is performed at a reception rate that is less than the transmission rate.

19. (Currently amended) A gateway for communicating among a first device and a second device, both of which operate in accordance with a fibre channel (FC) protocol, and an intermediate network coupling the first device to the second device and having a first protocol, the gateway comprising:

a first intermediate network gateway receiver that is to receive a packetized encapsulated sequence in accordance with the first protocol from the intermediate network and to determine whether the packetized encapsulated sequence contains bytes that include therein at least one intermediate network data character representation of an FC control character to be forwarded to the first device;

wherein the first intermediate network gateway receiver is to depacketize the packetized encapsulated sequence to produce an encapsulated sequence and to forward the encapsulated sequence to the first device if the packetized encapsulated sequence contains bytes [to be forwarded to the first device] that include therein the representation of the FC control character; and

a first FC network gateway transmitter that is to receive the encapsulated sequence, to remove an encapsulation header and an encapsulation footer from the encapsulated sequence to produce a decapsulated sequence, and to replace in the decapsulated sequence the at least one intermediate network data character representing the FC control character with the at least one FC control character if an indicator in at least one of the header or footer indicates replacement.

20. (Original) The gateway of claim 19, further comprising an encoder that is to transmit to the first device in accordance with the FC protocol the decapsulated sequence.

21. (Currently amended) The gateway of claim 20, wherein [the] a controller is to receive at a receive rate, and the encoder transmits at a transmission rate less than the receive rate.
22. (Original) The gateway of claim 19, wherein the first protocol is gigabit ethernet.
23. (Original) The gateway of claim 19, wherein the at least one control character is a K28.5 character.
24. (Original) The gateway of claim 19, wherein the at least one data character is a D28.5 character.
25. (Withdrawn) A method for conserving bandwidth in a fibre channel-to-non-fibre-channel-to-fibre channel network, the method comprising:  
determining presence of a change in an initial sequence of words;  
repeatedly adjusting an inactivity indicator to reflect lack of change in a subsequent sequence of words;  
reaching a threshold at the inactivity indicator when N identical words in the subsequent sequence of words are received; and  
transmitting the N identical words and ignoring other identical bytes in the subsequent sequence of words.
26. (Withdrawn) The method of claim 25, further comprising resetting the inactivity indicator to reflect beginning of the subsequent sequence of words upon determining the presence of a change in the initial sequence of words.
27. (Withdrawn) The method of claim 25, wherein transmitting the N identical words includes encapsulating the N identical words.
28. (Withdrawn) The method of claim 27, wherein encapsulating includes replacing control characters in the N identical words with data characters.

29. (Withdrawn) The method of claim 25, wherein the initial sequence of words is received at a gateway from a fibre channel device and the N identical words are transmitted from the gateway to another gateway.

30. (Withdrawn) An apparatus that conserves bandwidth in the retransmission on a high speed line information that is received on a low speed line, the apparatus comprising:

word change detector that detects presence of a change in an initial sequence of words;  
an inactivity indicator coupled to the word change detector and that is repeatedly adjusted to reflect lack of change in a subsequent sequence of words;  
wherein the inactivity indicator is to reach a threshold when N identical words in the subsequent sequence words are received;  
a transmitter coupled to the inactivity indicator that is to transmit the N identical words and is to ignore other identical bytes in the subsequent sequence of words; and  
wherein the inactivity indicator is to be adjusted to reflect beginning of the subsequent sequence if the word change detector detects a change in the initial sequence of words.

31. (Withdrawn) The apparatus of claim 30, wherein the inactivity indicator is a counter that is to be reset upon detecting presence of a change in the initial sequence of words.

32. (Withdrawn) The apparatus of claim 30, wherein the transmitter is to encapsulate the N identical words.

33. (Withdrawn) The apparatus of claim 32, wherein the transmitter is to replace control characters in the N identical words with data characters.

34. (Withdrawn) The apparatus of claim 30, further comprising:

a receiver at that is to receive the initial sequence of words from a fibre channel device;  
and  
wherein the apparatus is a gateway that couples a fibre channel network to a non-fibre channel network; and

wherein the transmitter is to transmit the N identical words from the gateway to another gateway via a non-fibre channel fabric.

Please add the following claims:

35. (New) The method according to claim 6 wherein the packetized encapsulated sequence is transmitted a plurality of N times prior to a subsequent first protocol data transfer operation.

36. (New) The gateway according to claim 17 wherein the packetized encapsulated sequence is transmitted a plurality of N times prior to a subsequent first protocol data transfer operation.

37. (New) The method according to claim 6 wherein the packetized encapsulated sequence is received by the first intermediate network gateway receiver a plurality of N times prior to the receipt by the first intermediate network gateway receiver of a subsequent first protocol data transfer operation.

## REMARKS

Claims 1-24 and 35-37 are pending in the application; claims 25-34 are withdrawn. After entry of this Amendment, claims 1-24 and 35-37 will be pending.

Claim 21 is rejected under 35 U.S.C. 112, second paragraph as being indefinite. Claim 21 has been amended to overcome this rejection.

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. (USP 6,272,551). Applicants have amended the independent claims and, as amended, respectfully traverse the Examiner's rejection.

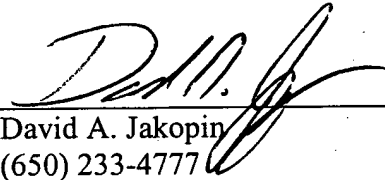
The claims have been amended to clarify that the invention includes replacing the FC control character with a data character of the intermediate protocol that represents the FC control character. This data character can subsequently be transferred back into the FC control character after transmission through an intermediate network. As described in the application, this replacement prevents confusion within the intermediate network of intermediate network control characters and FC control characters – thus preventing FC control characters from accidentally being identified as intermediate network control characters. The '551 patent cited by the Examiner does not teach or suggest this aspect of the invention.

Furthermore, new claims 35-37 are directed to transmitting and/or receiving the packetized encapsulated sequence a plurality of N times when there has not been a previous first protocol data operation. This ensures that FC protocol is complied with, irrespective of whether there is required an intermediate network protocol data operation. These claims also contain allowable subject matter.

If any issues remain which the Examiner feels may be resolved through a telephone interview, s/he is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,  
PILLSBURY WINTHROP SHAW PITTMAN LLP

Date: September 1, 2005

  
\_\_\_\_\_  
David A. Jakopin  
(650) 233-4777

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**FILING DATE:** March 16, 2001  
**FIRST NAMED INVENTOR:** Loren M. Jones et al.

**ATTACHMENT:**  
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